

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of	)
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<b>Johan K. Fremerey</b>	) Art Unit: 2832
	)
Serial No. <b>10/565,203</b>	) Examiner: Mohamad Musleh
	)
Filed: <b>May 22, 2006</b>	) Confirmation No. 9283
	)
Title: <b>MAGNETIC BEARING</b>	) Attorney Docket No: 26202.460
<b>ELEMENT</b>	)

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P.O. Box 1450  
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**APPELLANT'S REPLY BRIEF**

Dear Sir:

In reply to the Examiner's Answer to the appeal of the above-identified application, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the decision of the Examiner in whole, in light of the arguments herein, as well as those previously submitted in Appellant's Appeal Brief.

## **I. STATUS OF CLAIMS**

Claims 1 and 3-13 are pending, stand rejected, and are being appealed. Claim 2 has been canceled.

## **II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether the Examiner correctly applied the law to the facts in concluding that claims 1, 3-6, and 8-12 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Pinkerton, U.S. Patent No. 5,302,874 (hereinafter Pinkerton).
2. Whether the Examiner correctly found the necessary facts and applied the law of obviousness in concluding that claims 7 and 13 are unpatentable under 35 U.S.C. § 103(a) over Pinkerton in view of Koenig, U.S. Patent No. 6,250,577(hereinafter "Koenig").

### III. ARGUMENT

Appellant maintains that each claim on appeal is separately patentable. Separate arguments for the patentability of each claim are set forth in Appellant's Appeal Brief. For the purposes of this Reply Brief, arguments are presented below with respect to multiple claims. These arguments are not meant to detract from or annul previous arguments made in the Appeal Brief as to the separate bases of patentability of each claim.

Appellant respectfully disagrees with a number of points raised by the Examiner in the Answer. The Examiner asserts that "[c]laim 1 does not claim that the binding band is directly engaged with the magnet segments . . ." Examiner's Answer, page 7. This position, however, inappropriately misconstrues the term "engaged." When two elements are engaged in a mechanical sense, they are in direct contact, and often acting upon each other. In this case, this definition holds true because the disclosed binding band of claim 1 is disclosed as being in contact with and acting on the annular magnet. *See* Specification, paragraph 12. Changing the term from "engaged" to "directly engaged" does not alter the scope of the claims because there is no such thing, in the mechanical sense of the term, as being indirectly engaged; elements can either be engaged or not. Thus, the Examiner's position that housing 12 is engaged with the annular magnets is inappropriate. In Pinkerton, the magnets are engaged with support pieces 30, 32, not the housing 12. Pinkerton, column 8, lines 42-45. The fact that these support pieces are then engaged with either the housing 12 or an endwall 14 which is also engaged with housing 12, does not mean that engagement can be transferred to the housing 12. The housing 12 is engaged with either the endwall or the support pieces, and the support pieces are engaged with the magnets. If the Examiner's position were to be accepted, then any element would be "engaged"

with any other element on the same device or even a different device through a nearly limitless number of connections. This would make the use of the term “engaged” meaningless.

The Examiner further asserts that because the magnets of Pinkerton are supported, a force must exist and is therefore inherent in the reference. *See Examiner’s Answer*, page 7. However the claim does require merely a force, such as the reaction force pointed out by the Examiner in Pinkerton, but a preloading force. Holding something in place does not create a preloading force. The difference between these types of forces is well known by one of skill in the art of bearing assemblies and also from basic physics, especially the preloading forces associated with magnetic bearings. By definition, preloading a bearing results in applying a permanent thrust load, so that a constant force is present beyond the force of gravity. Therefore, with a preloading force there is some displacement of the magnetic elements. This is not disclosed by Pinkerton, which merely holds the magnets in place.

The Examiner asserts that his position is supported by the Appellant’s specification on the grounds that paragraph 9 describes the binding band preload as producing immovable compressive contact between the enveloping surfaces of the individual magnets. *See Id.* Pinkerton, however, discloses magnets separated from each other, not in contact, and thus supporting the position that there is no preloading force.

With regard to claims 6 and 12, the Examiner asserts that Pinkerton discloses annular magnets, having slits which are offset from one another. *See Examiner’s Answer*, pages 9-11. To support this position the Examiner points to slits A of one permanent magnet as being offset from other magnets B and C. This interpretation, however, supports Appellant’s position made in section VII.D of the Appeal Brief, that Pinkerton discloses individual horseshoe magnets and not annular magnets as required by the claim. If the Examiner is treating the individual magnet

segments disclosed in Pinkerton as the divided annular magnets of the claims, then this position must be maintained throughout the interpretation of the claims. With regard to claims 5 and 11, the Examiner asserts the horseshoe shaped individual magnets should be considered separated and the inner ring of the magnets treated as a first annular magnet and the outer ring of magnets treated as the second annular magnet. If this interpretation is taken, the slots of the magnets are aligned as shown in Figures 7 and 8 of Pinkerton; making the rejection of claims 6 and 12 improper. Otherwise, the magnets in Pinkerton should be treated as individual horseshoe magnets as described in the specification, and asserted by the Examiner in the rejections of claims 6 and 12. *See* Pinkerton, Figure 1, column 6, lines 15-20, column 8, lines 42-50. This interpretation then makes the rejection of claims 5 and 11 improper. Changing the interpretation of Pinkerton to meet the limitations of claims 6 and 12, when doing so conflicts with the prior rejections of the claims from which claims 6 and 12 depend is impermissible.

The Examiner further asserts that if the slits in Pinkerton are aligned, claims 6 and 12 are still anticipated because the term "offset" can be taken to mean the offset is zero. *See* Examiner's Answer, page 10. Appellant respectfully disagrees with this assertion. Two things cannot be both aligned and offset. Nor can a distance, in this case in the unit of degrees, be offset by zero. *See* Figure 1; Specification paragraphs 10 and 12. To interpret offset in this manner would be, again, rendering a term meaningless.

With regard to claims 7 and 13, Appellant respectfully submits that the Examiner still fails to set forth facts sufficient to show obviousness under the current law. Claims 7 and 13 require that the binding band be made from a carbon-fiber material. While the Examiner has pointed to Koenig which discloses the use of carbon-fiber material in a device similar to Pinkerton, he has failed to set forth why, or how, one of ordinary skill in the art would have

found it obvious to combine the two references to meet the limitations of claims 7 and 13. As discussed in section VII.F of the Appeal Brief, Koenig discloses only carbon-fiber self-lubricating inserts. Koenig makes no mention of a binding band. The Examiner asserts that:

[T]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

Examiner's Answer, page 11. The Examiner, however, fails to follow this legal dictum with any facts or reasoning as to why the teachings of Koenig and Pinkerton would suggest the limitations of claims 7 and 13 to one of ordinary skill in the art. The Examiner concludes that the material was known to be used on an outer surface, but fails to explain why one would modify those self-lubricating inserts to create a binding band; two separate and distinct elements, having different structures and functions. Moreover, he fails to explain why one would modify the housing of Pinkerton to be made from this material. The reasons Koenig uses the carbon-fiber inserts, such as wear resistance, would be useless on the outer housing of Pinkerton. Thus, the Examiner has failed to set forth why this combination would have been obvious to one of ordinary skill in the art.

### **VIII. CONCLUSION**

For the reasons given above, and those set forth in the Appeal Brief, pending claims 1 and 3-13 are allowable and reversal of the Examiner's rejections are respectfully requested.

Respectfully submitted,



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